Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently amended) A method for ~~adjusting a~~ calibrating ~~curve for~~ a sensor calibration comprising:

          compiling a calibration array of data values relating to the sensor;

          generating a calibration curve ~~based on the data values in the calibration array~~;

          adjusting a nominal output current of the sensor ~~a first time~~ based on data in the calibration array; ~~and~~

          adjusting the calibration curve based on ~~representing the sensor output based on data in the calibration array and~~ the adjusted value of the nominal output current.

2.   (Previously Presented) The method of Claim 1, wherein compiling the calibration array comprises compiling historical data.

3.   (Original) The method of Claim 2, wherein the historical data comprises measured blood glucose readings.

4.   (Previously Presented) The method of Claim 1, wherein compiling the calibration array comprises compiling recent data.

5.   (Original) The method of Claim 4, wherein the recent data comprises electrode readings.

6.   (Original) The method of Claim 5, wherein the electrode readings comprise glucose electrode readings and oxygen electrode readings.

7.   (Original) The method of Claim 4, wherein the recent data comprises measured blood glucose concentrations.

8.   (Original) The method of Claim 7, wherein the nominal output current is a nominal glucose current.

9.   (Original) The method of Claim 8, wherein the nominal glucose current is adjusted based on a shift of measured data points with respect to blood glucose readings.

10.   (Original) The method of Claim 9, wherein the shift is a mean shift.

11.   (Currently amended) The method of Claim 1, wherein adjusting the calibration curve representing the sensor output comprises performing a linear regression on data in the calibration array.

12.   (Original) The method of Claim 11, wherein a result of the linear regression determines a first calibration point.

13.   (Original) The method of Claim 12, wherein the first calibration point is used to determine a plurality of calibration points.

14.   (Previously Presented) The method of Claim 1, wherein adjusting the calibration curve representing the sensor output comprises adjusting the calibration curve in a piecewise linear fashion.

15.   (Original) The method of Claim 14, wherein a number of pieces in the piecewise linear adjustment is five.

16.   (Previously Presented) The method of Claim 1, further comprising adjusting the nominal output current of the sensor a second time based on data in the calibration array.

17.   (Original) The method of Claim 16, wherein the nominal output current is a nominal glucose current.

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18.   (Original) The method of Claim 17, wherein the nominal glucose current is adjusted based on a shift of measured data points with respect to blood glucose readings.

19.   (Original) The method of Claim 18, wherein the shift is a mean shift.

20.   (Original) The method of Claim 1, further comprising establishing a new sensor output based on the adjusted calibration curve and the twice adjusted sensor parameter.

21.   (Withdrawn) An implantable sensing system comprising:

a sensor for sensing a biological parameter;

a processor connected to the sensor for processing the parameter; and

a drug delivery unit connected to the processor for responding to the processor based on the parameter, and

a calibration system as recited in claim 33.

22.   (Withdrawn) The system of Claim 21, wherein the sensor is a glucose sensor.

23.   (Withdrawn) The system of Claim 21, wherein the drug delivery unit is an insulin pump.

24.   (Withdrawn) The system of Claim 21, wherein the insulin pump delivers insulin in response to the sensed parameter.

25.   (Withdrawn) The system of Claim 21, wherein means for compiling a calibration array comprises compiling historical data.

26.   (Withdrawn) The system of Claim 25, wherein the historical data comprises measured blood glucose readings.

27.   (Withdrawn) The system of Claim 21, wherein means for compiling a calibration array comprises compiling recent data.

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28.	(Withdrawn) The system of Claim 27, wherein the recent data comprises glucose electrode readings and oxygen electrode readings.

29.	(Withdrawn) The system of Claim 27, wherein the recent data comprises measured blood glucose concentrations.

30.	(Withdrawn) The system of Claim 21, wherein means for adjusting a sensor parameter a first time comprises means for adjusting a nominal glucose current.

31.	(Withdrawn) The system of Claim 21, wherein means for adjusting the calibration curve representing the sensor output comprises means for performing a linear regression on data in the array.

32.	(Withdrawn) The system of Claim 21, wherein means for adjusting the calibration curve representing the sensor output comprises means for adjusting the curve in a piecewise linear fashion.

33.	(Withdrawn) A sensor calibration system comprising:

means for compiling a calibration array of data values relating to the sensor;

means for generating a calibration curve based on the data values in the calibration array;

means for adjusting a sensor parameter a first time based on data in the calibration array;

means for adjusting a calibration curve representing the sensor output based on data in the array; and

means for adjusting the sensor parameter a second time based on data in the calibration array.

34.	(Previously presented) The method of Claim 1, wherein generating a calibration curve comprises generating a calibration curve based on a priori empirical values, and wherein the method further comprises:

compiling a plurality of data values from the sensor;

compiling independent historical values of a parameter sensed by the sensor; and

reconciling the plurality of data values from the sensor to the calibration curve using the independent historical values.

35.   (Original) The method of Claim 34, wherein the sensor is a glucose sensor.

36.   (Original) The method of Claim 34, wherein generating a calibration curve comprises compiling *a priori* empirical values of sensors similar to the sensor being calibrated.

37.   (Original) The method of Claim 34, wherein generating a calibration curve comprises generating a calibration curve representing a sensor having a plurality of phases.

38.   (Original) The method of Claim 34, wherein the independent historical values of a parameter sensed by the sensor are metered blood glucose values.

39.   (Original) The method of Claim 34, wherein reconciling the plurality of data values comprises adjusting an output current of the sensor.

40.   (Original) The method of Claim 39, wherein the output current of the sensor is a nominal glucose current.

41.   (Original) The method of Claim 40, wherein the nominal glucose current is adjusted based on a shift of the plurality of data values from the sensor with respect to metered blood glucose values.

42.   (Original) The method of Claim 34, wherein reconciling the plurality of data values comprises performing a linear regression on the plurality of data values.

43.   (Original) The method of Claim 34, wherein reconciling the plurality of data values is performed in a piecewise linear fashion.